



Arizona Department of Weights and Measures *Vapor Recovery Alert No. 11*

VacuSmart As an Equivalent Test Method

September 27, 2005

The Department of Weights and Measures is issuing this *Vapor Recovery Alert* to inform the Registered Service Agency (RSA) community that the Department has completed its evaluation of the VacuSmart and concurs with the California Air Resources Board, (CARB) that the use of the VacuSmart equipment is not an equivalent method to TP 201.5 for Gilbarco systems with the lower end A/L (see attached). This was stated in a CARB equipment alert dated April 8, 2004. The Department has reviewed data supplied by CARB and collected its own data with the help of the testing community. The Department has determined that the definitive test for determining A/L is TP201.5. The required equipment to be used for conducting that test as stated in TP201.5 is the Roots Meter.

In an effort to maintain some flexibility the Department has also conducted its own test on the Triangle Environmental, TriTester and also concurs with CARB that it is an equivalent test method. This was stated in a letter from CARB dated June 2, 2004. The Department is going to accept that equipment and procedure as being equivalent to TP-201.5 and will allow that equipment to be used in determining A/L.

The Department believes the transition to the Roots Meter will benefit the testers and their customers. More reliable readings will mean fewer failures and down-time.

The Department understands that this determination will have an economic impact on the testing community and will allow for a period of 18 month to transition away from the VacuSmart to the Roots Meter for those A/L tests. Once an RSA has obtained the required equipment it should be used exclusively.



Number 323

April 8, 2004

This advisory clarifies the appropriate use of OPW's VacuSmart and VacuChek testing equipment with Gilbarco VaporVac systems. VacuSmart and VacuChek testing equipment and procedures were approved March 3, 1997, as equivalent test procedures to TP-201.5, for the air to liquid (A/L) ratio operating range of 1.10 ± 0.10 (1.00 to 1.20), for Gilbarco VaporVac systems as described in Executive Order G-70-150-AD. Executive Order G-70-150-AE, issued July 12, 2000, modified the certification of Gilbarco VaporVac systems to include nozzles with vapor guards and lowered the A/L ratios for those nozzle types to 1.0 ± 0.10 . The VacuSmart and VacuChek units have not been approved and should not be used for the lower A/L ratio range nozzles specified in Executive Order G-70-150-AE.

The Air Resources Board staff has evaluated the VacuSmart and VacuChek testing equipment and procedures to determine equivalency to TP-201.5 with the lower A/L ratio range for Gilbarco VaporVac systems and found the testing equipment does not perform equivalently. As a result of this determination, the Air Resources Board has no technical or legal basis to allow the use of the VacuSmart and VacuChek when testing Gilbarco VaporVac systems with nozzles that require the lower A/L ratio range.

Further information regarding the Vapor Recovery program is available at the Air Resources Board vapor recovery web site at <http://www.arb.ca.gov/vapor/vapor.htm> or by contacting the Air Resources Board's Engineering and Certification Branch at (916) 327-0900. For questions on this advisory, please contact Joe Guerrero at jguerrer@arb.ca.gov or (916) 324-9487.



Terry Tamminen
Agency Secretary

Air Resources Board

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Arnold Schwarzenegger
Governor

June 2, 2004

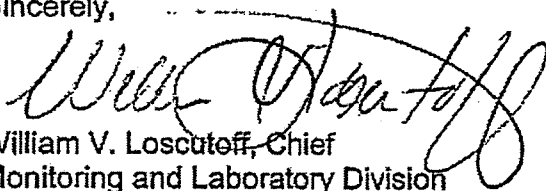
Mr. Roy E. Soffe
Triangle Environmental, Incorporated
2525 W. Burbank Boulevard
Burbank, California 91505-2302

Dear Mr. Soffe:

In response to your letter dated February 16, 2004, we have completed our analysis of data from comparison testing of the Triangle's Phase II Vapor Recovery Air/Liquid (A/L) Tester also known as the TriTester Model 2.96. Based on the results described in the enclosed summary of EPA Method 301 statistical calculations, we approve the TriTester Model 2.96 instrument and procedure as equivalent to the 1996 version of ARB Test Procedure TP-201.5, when applied to any system for which the 1996 version of ARB TP-201.5 is specified or approved. This approval is applicable when testing is conducted as specified in the accompanying operating manual. Please note that equivalency of the TriTester Model 2.96 has not been determined with the 2001 version of TP-201.5.

Thank you for your patience and assistance in conducting the EPA 301 comparison testing of TriTester Model 2.96 to the 1996 version of ARB Test Procedure TP-201.5. If you have further question, please contact Joe Guerrero at (916) 324-9487 or via e-mail at jguerrer@arb.ca.gov.

Sincerely,



William V. Loscutt, Chief
Monitoring and Laboratory Division

Enclosure

cc: Lou Roberto
South Coast AQMD

John Schroeder
San Joaquin Valley APCD

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

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**Summary of Statistical Analysis Comparing the
1996 Version of TP-201.5 (Air to Liquid Ratio) to
Triangle's TriTester Model 2.96
June 2, 2004**

To determine if the Triangle TriTester Model 2.96 (Triangle's Phase II Vapor Recovery Air/Liquid (A/L) Tester) is equivalent to the 1996 version of TP-201.5, comparison testing was conducted on 11 different nozzles with a wide range of A/L values. These nozzles were tested repeatedly, alternating procedures, so any effects of A/L variation over time would be minimized in comparing runs. This resulted in 117 runs and the results were analyzed statistically in accordance with EPA Method 301. The calculated statistical results are summarized below. The TriTester Model 2.96 has not been evaluated for equivalency with the 2001 version of TP-201.5.

Statistical Analysis

Statistical Measurement	Result
Standard deviation of the 1996 version of TP-201.5 (taken as standard deviation of the difference in 1996 method runs from previous run on same nozzle with same method)	0.107 (SD _v)
Average difference of Triangle's TriTester 2.96 from 1996 version of TP-201.5	0.003 (dm)
Standard deviation of Triangle's TriTester 2.96 from 1996 version of TP-201.5	0.104 (SD _d)
Standard deviation of Triangle's TriTester 2.96 (calculated from SD _d /1.414 since SD _v > SD _d)	0.074 (SD _p)
F-statistic of Triangle's TriTester 2.96 relative to 1996 version of TP-201.	0.479 (F) ¹
t-statistics of Triangle's TriTester 2.96 relative to 1996 version of TP-201.5	0.306 (t)
Correction factor required if t-statistic is greater than 1.397	none required

¹ Passes F-test criterion of EPA Method 301 since F<1.0.